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Accrual Anomaly in Indonesia (Empirical Study of Companies Registered in Indonesia's Stock Exchange)

ELBERT LUDICA TOHA
SITI NURWAHYUNINGSIH HARAHAP*
Universitas Indonesia

Abstract: *Many studies have found a reverse correlation between the levels of accruals and subsequent abnormal stock return on the US market, which is caused by investor's failure in predicting the future earnings using the cash and the accrual components. Investors overweight the accrual component. This relationship is considered as an anomaly since it is not a corresponding with the efficient market hypothesis, in which the investors should not overweight accrual component. This research aims to detect accrual anomalies to the companies registered in the Indonesia stock exchange. The sample used in this study is a list of companies on the Indonesia Stock Exchange with a total of companies are 121 companies. The result shows that there is accrual anomaly in Indonesia although it is slightly different from the US market.*

Keywords: *Accrual, Accrual Anomaly, Abnormal Return*

Abstrak: *Banyak penelitian telah menemukan korelasi terbalik antara tingkat akrual dan pengembalian saham abnormal berikutnya di pasar AS, yang disebabkan oleh kegagalan investor dalam memprediksi pendapatan masa depan menggunakan uang tunai dan komponen akrual. Investor kelebihan berat komponen akrual. Hubungan ini dianggap sebagai anomali, karena itu tidak sesuai dengan hipotesis pasar yang efisien, di mana para investor tidak harus kelebihan berat badan komponen akrual. Penelitian ini bertujuan untuk mendeteksi anomali akrual terhadap perusahaan yang terdaftar di bursa efek Indonesia. Sampel yang digunakan dalam penelitian ini adalah daftar perusahaan di Bursa Efek Indonesia dengan total perusahaan adalah 121 perusahaan. Hasilnya menunjukkan bahwa ada anomali akrual di Indonesia meskipun sedikit berbeda dengan pasar AS.*

Kata Kunci*: Akrual, Anomali Akrual, Abnormal Return*

*** Corresponding author**: s.nurwahyu@ui.ac.id

1. Introduction

In its efforts to develop the business, companies often deal with the need to raise capital from the public. The capital can be classified as a loan (debt) and as equities. If the company receives equity (capital markets) from the public, then the ownership of the company is partly owned by the public. A public that provides funds in the form of equity to the public company are called investors. There are two kinds of investor, which are institutional investors and individual investors. Institutional investors that manage large investment funds that come from customers have complete market information. Individual investors manage private investment funds with a smaller nominal than institutional investors. Also, the information held by individual investors is also not as complete as institutional investors. Individual and institutional investors demand the growing value of the investment, in other words for a return. This is because of the opportunity cost concept.

By investing in public companies, investors have sacrificed the opportunity to earn a rate of return on investment in other places, such as deposits or other investment alternatives. In General, the return is obtained from the increasing of the stock price (except the practice of short-selling). Investors expect the price of its shares increased from time to time, which means the selling price of their owner's right is higher than the purchase price and the individual investors obtain the return of the price difference.

In correlation with the stock prices does not always grow, investors will also deal with the risk of decline in stock prices, so that investors should be thoughtful in predicting stock prices. Fundamentally, an increase in the stock price is influenced by the ability of the Companies to provide returns for shareholders. Return correlates closely to earnings. Thus, (future) earnings are the decisive factor for stock prices (in the future). This is supported by research which states that the profit affects the stock price tremendously (Fischer & Jordan, 1991). Sloan (1996) explains, there are two components of income, namely accrual component and the components of cash (cash flow component). Profits from the accrual components have the persistence that is

lower than the cash flow component. This means that the accrual earnings have lower earning power.

Accounting principles prepared by the accrual basis while still allowing the cash basis for certain conditions. This involves estimating the accrual principle, the choice of accounting policies, allocation and management decisions involving subjective judgment. Ideally, management decisions in estimating, allocating and choosing accounting policies are based on good intentions to report the substance or the economic truth. However, in practice accrual principle is often used as a tool of earnings management. This leads to low levels of durability (sustainability) or persistence of the profits derived from the accrual component (Bernstein, 1993).

Sloan (1996) found that there is no difference in the level of persistence of the two components of income. However, because only the profits of today that are considered (current earnings) then there is mispricing of stock prices. Sloan (1996) further proofs that the proper weight was not given to the components of accrual and cash component, reflecting the market inefficiency. Markets tend to give very high price (overprice) on stocks that have high accruals quality, and they offer a little price (underprice) for stocks that have lower accruals quality. Moreover, the price will be corrected when it is occurred in the future, for high-quality accrual companies because its earnings were not as significant as predicted and its share price fell back, and the low-quality accrual company receives more substantial profits than expected and its share price rise more than expected. In other words, society gives excessive weight (overweight) in the accrual component. This phenomenon is called the accrual anomaly where there is the abnormal return of the low accrual company that is higher than the company with high accrual. This fact is called an anomaly since it is not matching with the efficient market hypothesis where the price of today, has already reflected the price of the future so that it is impossible to obtain abnormal return (Pincus et al., 2007).

Research on the accrual anomaly is generally used as a sample of public companies in the United States market. Anomalies in other international markets have also been widely studied, one by Pincus et al. (2003). Past research has generally

concluded accrual anomaly is more common in the capital markets that are in common law countries than code law, as well as countries that permit the use of excessive accruals. The study accrual anomaly in the equity markets of developing countries has not been much done. Therefore, research using a sample of developing countries like Indonesia needs to be done. This study focused on the accrual anomaly presence in the Indonesian market. The accrual anomaly could be indicative of the Indonesian capital market efficiency.

Sloan research result (1996) found a negative correlation between the level of accrual subsequent stock return has triggered a variety of related research, one of which is a generalization of the accrual anomaly in the capital markets of other countries. Departing from the results of the study, the researchers wanted to test whether the accrual anomaly also occurs in the Indonesian capital market and whether the magnitude is fixed from time to time or not. In summary, the problem's formulation of this research are as follows: in the context of the Indonesian capital market, whether there is a phenomenon of the accrual anomaly that is similar to the American capital market, as well as whether the magnitude of this anomaly remains the same from time to time.

2. Theoretical Framework and Hypothesis Development

Based on the Efficient Market Hypothesis (EMH), the market is said to be efficient if the stock price instantly reflects all available information appropriately, including accounting information, which in the context of this study is a component of accrual income (Jones, 2007). The consequences of the EMH are the ability of analysts expects future earnings to perfection that is considering the elements of accrual and cash element in profits today. If estimating future earnings can be predicted correctly, then the current stock price will move to a reasonable equilibrium price. Because the prices are reasonable at this time and it has already accommodated future earnings, then there will be no price correction in the future when the earnings are announced.

Statement of Financial Accounting Standards (SFAS) requires that every public company financial report as a form of accountability. The objective of financial statements is to provide information about the position and the company's financial performance for the reader of financial statements. To achieve these objectives, financial statements are prepared on the accrual basis. Accrual accounting principle led to a transaction event to be recorded based on the economic substance, not cash flow. Implementation of these principles will involve several activities, such as estimation, allocation, and other subjective management decisions.

As a consequence of the principle of accrual accounting, reporting profit consists of two components, such as the accrual component and the cash component. The cash component is recognized as accounting earnings, and that has physical cash flow. Accrual component is profit from the accounting policy, and it is to recognize an economic transaction as earnings (income and expenses) with no cash flow. A lot of financial literature mentioned that there are two components of this profit which have the quality and persistence of different levels.

Quality of earnings is the ability to profit in the financial statements describes the actual condition of the company's profit as well to be used in predicting future earnings (Bellovary, Giacomino, & Akers, 2005). Quality of earnings refers to the stability, durability (persistence) and uniformity (lack of variability) of reported earnings. Research shows that the quality of earnings is influenced by economic characteristics, fundamentals of financial statements and accounting methods (Subramanyam & Wild, 2009). To generate a profit forecast that is accurate, stable and repeatable components must be separated from the non-repeating components (Subramanyam & Wild, 2009). Things that affect the persistence of earnings are Earnings Trend and Earnings Management. In addition to being able to identify the persistent component of earnings, the analyst should be able to identify the components of earnings are temporary (transitory). Two main steps that should be done by the analyst are to determine whether an item is transitory with the classification of nonrecurring operating and nonrecurring non-operating and adjust the post that is transitory (Subramanyam & Wild, 2009):

Accrual anomaly has been identified in Sloan's research (1996) as the negative correlation between the level of accruals and subsequent stock return. Sloan (1996) identified two components in profit, which is a component of cash and accrual components. Studies proved the accrual component is having a lower degree of persistence compared to the cash component. In other words, accrual earnings are less likely to be recurring compared to cash earnings. This is explained by Bernstein (1993) that "*CFO (cash flow from operations), as a measure of performance, is less subject to distortion than is the net income figure. This is so because the accrual system which produces the income number that relies on accruals, deferrals, allocations, and valuations, all of which involve higher degrees of subjectivity than what enters the determination of CFO. That is why analysts prefer to relate CFO to reported net income as a check on the quality of that income. Some analysts believe that the higher the ratio of CFO to net income, the higher the quality of that income. Put another way, a company with a high level of net income and low cash flow may be using income recognition or expense accrual criteria that are suspect".*

In short, accrual earnings tend to earnings management influenced subjective decisions, and it is not an income that will be repeated. Sloan (1996) proves the level of persistence of both components to perform regression. The dependent variable is the profit of the present and past earnings independent variables. Past earnings are divided into two, namely the components of cash and accrual components. The regression results indicate that the cash component has a coefficient more significant than the accrual component. This means that the cash component is more persistent. Similar results were obtained by Habib (2008) for a company in New Zealand. The results showed the cash component plays a more critical role in the prediction of future earnings compared with the accrual component. This is evident from the results of the regression coefficients more significant than the cash component of income components (where the profit is composed of the components of cash and accrual).

Sloan (1996) estimated that there is a failure to pay attention to both these components precisely in the valuation. In other words, the persistence of weak cash accrual compared to the persistence of cash was unrecognized. It is also expressed in

the research of Teoh & Wang (2002), they found that the accrual component is an important thing that caused the error prediction (forecast error). Analysts tend to be too optimistic in predicting future earnings of the companies that have higher accrual rate, therefore, affects overweight accrual component (Teoh & Wang, 2002). They tend to judge the accrual components to have the same level of persistence with the cash component.

Sloan (1996) tried to simulate buying and selling shares by exploiting analysts' and investors' errors. The results obtained are positive abnormal return for the company with low accrual and negative abnormal return for the companies with high accrual. This study was followed by Lev and Nissim (2005) to reexamine the existence of the accrual anomaly in several indexes in the United States. He made several portfolios based on company size and book to market ratio. In each group, the company sorted by the amount of the accrual component of earnings and balance sheet approach. Return for each share was compared with the average return of the stock groups concerned. The difference between them is that they generate abnormal returns. As a result, companies with high accrual rate give the abnormal return. This study reinforces the conclusion Sloan (1996) made about the existence of a negative correlation between the rate of accrual of subsequent stock return.

Lev and Nissim (2005) argue that if the abnormal return can be gained by exploiting the accrual, then it will be done by the investors, in other words, the arbitration. Arbitration practice will eliminate the abnormal return. Therefore, they tested whether the accrual anomaly survives over time. The results showed the existence of these anomalies remain during the observation period although there is evidence of arbitration accrual anomaly in small quantities.

One explanation for why investors do not massively arbitrate comes from Mashruwala, Rajgopal, & Shevlin, (2006). The reason for the investor's behavior is, the amount of risk on the company high accrual adverse risk, so investors avoid these stocks. Besides, the accrual anomaly is found in companies that have a low stock price with low transaction volume as well. Thus, the cost of the transaction is an important thing to be observed.

In his research, Sloan (1996) uses the balance sheet approach in estimating the quality of accruals in companies, while Lev and Nissim (2005) using two approaches, namely the balance sheet and cash flow. Hribar and Collins (2002) investigated both of these approaches. They concluded that the estimated accrual rate company with a balance sheet approach could lead to errors that affect the final results of the study. Therefore, they are advised to use the cash flow approach. Soares and Stark (2009) found the results strengthen their previous research, namely the existence of the accrual anomaly in the British capital market. They created a portfolio and calculated the abnormal return of each stock in the portfolio groups. His invention was the accrual anomaly occurs only in high accrual stocks, while a similar phenomenon was not found in lower accrual stocks.

After various studies conducted in the United States, Pincus et al. (2007) examined whether the accrual anomaly is a phenomenon that occurs in each of the capital markets of various countries. They do a regression with the dependent variable and the abnormal return on the characteristics of the various independent variables such as the capital market legal system (common law or code law), the prohibition of insider dealing (insider trading restriction), accounting policies, the level of concentration of ownership, and public ownership. They found that only in four countries, that are USA, UK, Canada, and Australia, the accrual overweighting is not always followed by underweighting the components of cash and accrual anomaly. Accrual anomaly is more prevalent in common law countries, where accrual accounting is more extensive and the concentration of ownership and low control of public shareholders. The characteristics of the country strongly influence accounting policies in a country. Those three things include the legal system, the dominant source of funding, and the concentration of ownership (Choi & Meek, 2008). The legal system is broadly divided into two, namely common law and law code. Differences in accounting standards on both types of law are explained by Choi and Meek (2008) as follows: "*Thus, in code law countries, accounting rules are incorporated into national laws and growing niche to be highly prescriptive and procedural. By contrast, the common law develops on a case-by-case basis with no attempt to cover all cases in an*

all-encompassing code. Statute law exists, of course, but it tends to be less detailed and more flexible than in a code law system. This encourages experimentation and permits the exercise of judgment. "

Countries that have a common law system give space to the management to decide the technique of recording a transaction. Thus, the practice of discretionary accruals is more prevalent in common law countries than law code. Moreover, the dominant funding source in common law countries generally is capital markets accompanied by low ownership concentration (disperse ownership). The consequence is the necessity to have a low overhead investor protection mechanism that there are vast numbers of consequences considering the concentration of ownership. This mechanism promotes transparency resulting in the disclosure of financial statements that is more complete than the country where the bank-based creditor protection is preferred. Protections against creditors are not made through disclosure but rather to the application of conservatism on the measurement of income. Thus, a conservatism that is inversely proportional to the accrual (the more conservative, the lower the accrual) tend to be stronger in countries that are dominated by the bank's funding sources. Based on the factors above, extensive use of accrual is common in law countries. This explains why the accrual anomaly is more common in common law countries (Pincus et al. 2007).

In the Indonesian market, the research regarding accrual anomaly is conducted by the Ratmono & Cahyonowati (2005). Balance sheet approach is used in conducting a proxy on accrual rate companies. It is concluded that the accrual component has a persistence that is lower than the cash component, according to the results of research in the United States market. However, Mishkin Test is conducted to test the market's assessment of the components' persistence of earnings to show that the Indonesian market is overpricing of all components. This is not following the results of previous studies, which investors tend to overprice accrual components and underpricing cash components.

In reporting earnings, there are two components of information that must be considered, namely the accrual component and the cash component. The cash component can be seen from the company's cash flow statement, while the accrual

component can be obtained through the reduction of total profit with cash flow from operations. Accrual components arising from the accounting standards apply on an accrual basis. That is, the recording and recognition are done on economic substance, not cash flow. This makes a lot of cash transactions that have not been accepted (or excluded) but has been recognized in the books to enable the emergence of the recognition of revenue (or expense) when the real cash has not obtained (or excluded). Accounting Standards Board in various countries provides specific criteria for posting an event with no cash flow. If it meets the criteria, then the transaction can be recorded in the company's accounting system. Because decisions are in the management, the recording process is highly subjective within the company. Therefore, the accrual component of earnings is highly susceptible to earnings management practices (Sloan, 1996). Management is free to add or reduce profits by setting the time of admission.

Profits from the "timing" of recognition must have a level of persistence that is weak, because the profits are not from the company's ability to continue to repeat, but rather "artificial income". For example, if the income was recognized in December 2009 in January 2010, such profits will not be repeated in January 2011 (If management recognizes gains correctly December 2010). In contrast to the cash component, it has a persistence that is higher than the accrual component because it is relatively free from time regulation. Much financial literature discusses the role of the accrual component information which investors fail to give exact weight to the persistence of these compounds (Sloan, 1996). They tend to give equal weight. Investors often regard the rate of profit without regard to these two components.

Actual future earnings of companies with high accrual components will tend to be lower than predicted (predicted future earnings), because the accrual earnings are not repeated when investors expect such profits are repeated, due to failure to assess the persistence of components of accruals (Teoh&Wong, 2002). Applicable vice versa, companies with low accrual future rate tend to have higher actual future earnings than predicted. As a result, predictions of future earnings are not appropriate and cause an error on stock prices (mispricing). When there is a difference between the actual future predicted earnings, the stock price will be rectified. In other words, investors tend to

overprice (under price) for shares of companies that have high accruals quality (low). As a result, companies with high accrual rate, offer negative abnormal return and lower quality accrual company offers a positive abnormal return. The negative correlation between the levels of abnormal return accrual is called an accrual anomaly. Investors can study the phenomenon of this correction to then be utilized (arbitration) to obtain a personal advantage, called the accrual strategy.

Based on the theoretical framework, the quality level of accrual and failure to assess the persistence investor would generate abnormal returns. Higher accrual rate which led to overpricing stock prices, while the low will cause underpriced accrual. In the future, high accrual shares (overprice) will experience a negative correction and vice versa. Thus, the hypothesis of this study is: There is accrual anomaly, which is a negative relationship between the level of accruals and subsequent abnormal stock return

3. Research Method

There are two main tests performed in this study, namely:

1. Replication study (Lev and Nissim, 2005) to determine whether there is abnormal return is positive (negative) in a company that has a lower accrual rate (high), by performing simulations on a portfolio purchase and implement strategies accrual. Accrual strategy in question is to buy stocks with low accrual and selling (short sell) for high accrual company shares in the same amount large. Then calculated the average abnormal return that is obtained by the difference between individual stock returns to a portfolio.

The portfolio is based on three criteria: company size (size-based portfolios), the ratio of book to market value (BM-based portfolios), and both (Size / BMbased portfolios). The researchers divided the sample into four groups of three ways equally large portfolio formation as previously mentioned. Preparation of the portfolio based on research of Fama and French (1992), which concluded that the company's size and book-to-market enough to explain variations in return. Also, research by Soares & Stark (2009) also uses these two variables as the basis for the establishment of a

portfolio. In a size-based portfolio, companies sorted by size and grouped into four. Similarly, the BM-based portfolios, companies are sorted based on the ratio of book-to-market value and are grouped into four. On Size / BM-based portfolios, samples were grouped into two categories based on size. Each group was then divided into two small groups based on the ratio of book-to-market value, resulting in four groups of companies (portfolio), each of which contains 30 samples (except the fourth group that has 31 samples). Thus, in each portfolio, there will be four groups of companies. This is done to control the variable firm size and book to market ratio separately or all in one so that companies in similar observations have character when the simulation is done.

In each portfolio, abnormal accrual return of the lowest five companies will be reduced by the abnormal return of the five highest accrual company. Thus, it can be seen whether the company has a low accrual abnormal return that is higher than the high accrual company or not.

2. Linear regression to examine the correlation between the level of accruals and abnormal returns. In this model also included a few control variables used in the research of Fama and French (1992) as follows:

$$AR_t = \beta_0 + \beta_1 ACC_{t-1} + \beta_2 SIZE_{t-1} + \beta_3 BM_{t-1} + \varepsilon_t$$

Where,

AR = *abnormal return*

ACC = accrual

SIZE = Company size

BM = *Book Market Ratio*

Regression will be performed on each type of portfolio in each year and the overall sample without dividing into portfolios. Abnormal return is measured by calculating the difference between the average monthly stock return with the average monthly return portfolios where the company is located. The mean monthly return is

calculated starting from May, where it is assumed investors have had time to prepare financial statements published by companies. Besides being used as the dependent variable of the regression equation, the calculation results are the same abnormal return will also be used in a simulation test portfolio.

Researchers used income statement approach for calculating the accrual rate Companies (ACC) as used by Lev and Nissim (2005), namely the difference between earnings before extraordinary items and discontinued operation (EBXI) and cash flow from operating activities (CFO), these variables are then scaled to the size of the company. Company Size (SIZE) is the log of average total assets. BM Book Value is calculated by dividing total assets by market value.

3.1 Data and Sample

This study uses secondary data which is an element of financial statements, the total assets of the data, the data ratio of book-to-market value, earnings, and cash flow from operations in the Osiris. If there is incomplete data on the sites of the data providers, researchers took data from the financial statements of companies in the Indonesia Stock Exchange. Also, the weekly stock price data obtained by Yahoo! Finance. Samples taken are companies from various industries except for the financial industry from 2002 to 2007 are listed in the Indonesia Stock Exchange. A timed sample was selected on the grounds of unavailability of data before 2002 and the global crisis of 2008. The global crisis caused the stock price movement as the dependent variable becomes twisted to interfere with research sampling technique used was purposive sampling, where samples must end the fiscal year in December.

This study uses a sample of 121 stocks in the Indonesian capital market of various industries except for the financial industry for four years (2002-2005). The data available in the database of Osiris is 375 companies. From the population, there are 81 companies were not included because those companies which are in the financial industry have different characteristics with companies in other industries. This exception also allows comparison of these results with previous studies, including

(Soares & Stark, 2009), (Sloan, 1996), and (Lev and Nissim, 2005), which also does not include the financial industry.

Besides, 141 companies are not included in the testing because of the incompleteness of the data to calculate the required independent variables. Another 32 samples were excluded because of monthly stock price data could not be obtained. Details of selecting samples are presented in Table 1.

Given the amount of sample is only 41% of the total number of companies on Stock Exchange, the researcher held a different test to identify differences in characteristics between the companies included in the sample with the characteristics of the population. The characteristics were tested proxy by total assets. Based on the t-test method in E-Views, the probability of the result is greater than 5%. Thus, it can be concluded that the samples had the same characteristics as the population.

Some matters are done in processing the data to prove the hypothesis of this study is as follows:

1. Build a portfolio and simulate buying and selling stocks (trading) companies between high and low accrual. There are three ways the formation of the portfolio, namely:
    a) In size / BM-based portfolios, samples are grouped into two based on the average size of the company (size) for four years. Each group was then divided into two small groups based on the ratio of book-to-market value, resulted in four groups of companies (portfolio), each of which contains 30 samples (except the fourth group has 31 samples).
    b) In size-based portfolios, samples are grouped into four based on size so that there are four portfolios.
    c) At the BM-based portfolios, portfolios are grouped into four by four years the average value of the ratio of book-to-market.

2. Perform regression to determine the correlation of dependent variables (abnormal returns) to the independent variable (accrual) and the control variables (size of the company, the value of book-to-market value). Regression is done for each group

of companies (portfolio) in size-based portfolios, BM-based portfolios, and size / BM-based portfolios.

4 Result

4.1 Portfolio Simulation

4.1.1 Size-based Portfolios

Researchers used the logarithm average total assets of individual samples during the observation period (four years from 2002-2005) as the basis for the establishment of a portfolio. Average SIZE of each sample is sorted from highest to smallest and then divided by four portfolios. Then the average monthly return of each stock as of four months from the closing date of the fiscal is calculated. The results will be averaged to determine the portfolio return. Return individual stock portfolio return minus concerned is abnormal return. The mean abnormal return of the five highest accrual companies will be compared with the five companies' highest accrual of any portfolio.

The simulation results-based SIZE portfolio presented in Table 2. In 2003 there were two of four portfolios where the company has a low accrual produce an abnormal return that is greater than the company's high accrual. The group is large-sized enterprise group (big firm) and the small-medium (moderate to small firm). In the group of big firms, accrual company low gain the abnormal return of -1.25%, while the high accrual is -2.98%. Although both groups acquire a smaller return than the return of the portfolio, the company with lower accrual still get a better return. In the group of moderate to a small firm, the distinction between high and low accrual company is 1.74%.

In 2004, there were two portfolios returned indicating the accrual anomaly, namely the moderate to a big firm and moderate to small firm. Abnormal return is different from each group, group companies' low and high accrual in each group was 0.41% and 0.79%. This difference is smaller than in 2003. In the group of a big and small firm, the accrual company high-gain abnormal return is higher than the low

accrual. Moreover, the difference is huge, i.e., 1.95% in the group of big firms, and 3.59% in the group of small firms.

In 2005, more and more groups of portfolios indicated the accrual anomaly, namely three of the four portfolio groups, which is the entire portfolio except for the small firm. In a big firm, moderate to a big firm, and moderate to the small firm portfolio, the group company that has a low accrual abnormal return is better than high accrual company, with differences in sequence 1.64%, 0.23%, 2.64%. In 2006, the entire portfolio showed the accrual anomaly. Companies with low accrual beating abnormally high returns accrual company with a difference of 1.67% on the significant firm portfolio, 7.41% on a moderate to the big firm portfolio, 1.23% in moderate to a small firm, and 3.54% at the small firm.

If the results of this simulation are presented annually as Figure 1 shows that in 2003, investors will get an average of 2.56% which is higher than the return of its portfolio every month. In 2004, investors will get a lower return than the return of the portfolio amounted to 4.34% per month. In the following year, the abnormal return will be more than a portfolio of 1.90% per month. In 2006, the investor will make a profit greater than 13.85% portfolio-per month return. This shows the accrual anomaly trend of increasing/increasing from year to year, and the accrual anomaly contained in the most recent years of observation.

4.1.2 BM-based Portfolios

Basic formation of this portfolio is the book-to-market ratio. The mean value of the four-year ratio of book-to-market is sorted and divided into four portfolios. Then, the average monthly return of each stock is calculated after four months from the closing date of the fiscal. The result will be averaged to determine the portfolio return. Return individual stock portfolio return minus concerned is abnormal return. The mean abnormal return of the five highest accrual companies will be compared with the five companies' highest accrual of any portfolio.

The simulation results based on the portfolio of the book-to-market ratio presented are in Table 3. In 2003 two of the four portfolios proves that the companies with low

accruals abnormal return had a higher return than the company's high accrual. The portfolio contains either companies that have a value of the medium book-to-market ratio, upper middle and middle class (moderate to high BM firm and moderate to low BM firm). In the group of moderate to high BM firm, the difference between the two extreme abnormal return accrual is not too large, i.e., 0.49%. In the group of moderate to high BM firm, the differences were more significant with 2.05%. Portfolio of company's worth book-to-market high and low ratio shows no accrual anomaly, which the accrual company high-gain abnormal return was higher than the company that was lower by 2.87% and 1.81%.

In 2004 there were also two portfolios that show signs of the accrual anomaly, which is moderate to low BM firm and a company with a book-to-market ratio was low (low BM firm). The differences are his abnormal return was 0.17% and 2.88%. The hypothesis is not proven in the company's portfolio that worth medium to high book-to-market ratio. In 2005, there is only one portfolio in which the company acts outperform lower accrual stock returns high accrual, i.e., at low BM portfolio firm. In this portfolio, high accrual company abnormal stock returns exceed the lower accrual company by a margin of 2.78%. In other portfolios, the company that has a low accrual abnormal return was higher than the high accrual company with a considerable margin, i.e., 1.03% on high BM firm, 1.58% at moderate to high BM firm, and 1.27% in companies moderate to low BM firm. In 2006, all companies' portfolio showed the abnormal return of lower accrual beat high accrual companies. Difference abnormal return on a high BM firm was from 3.68%, 3.30% at moderate to low BM firm, and 1.40% at the low BM firm. The most substantial difference in the amount of 7.22% is at moderate to high BM portfolio firm.

If the views for the entire period of observation, it was found that the lower accrual company in moderate to low BM firm has always had an abnormal return that is better than the company otherwise. Also, if investors invest in this portfolio, then in 2003 they would get a total abnormal return of -2.14%, 1.19% in 2004, 1.1% in 2005 and 15.60% in 2006 as illustrated in Figure 4:18. It can be concluded that during the period of observation there are indications of an increase in the accrual anomaly in the

Indonesian capital market. This conclusion is the same as the simulation of the portfolio formed based on company size (size).

4.1.3 Size/BM-based Portfolios

In forming the portfolio, researchers used a base of firm size (size) and the ratio of book-to-market ratio. During four years of observation, researchers used a logarithm average of total assets as the approach of company size and the mean ratio of book-to-market. Researchers then sort the size of the company and create two portfolios. In both portfolios, researchers sorted the ratio of book-to-market on each portfolio and divided them into two portfolios to a total of four portfolios. Researchers then calculated the average monthly return of each stock as of four months from the closing date of the fiscal. The result will be an average to determine the portfolio return. Return individual stock portfolio return minus concerned is abnormal return. The mean abnormal return of the five highest accrual companies will be compared with the five highest accrual companies of any portfolio.

The simulation results portfolios based on size and book-to-market ratio are presented in Table 4. In 2003, the accrual anomaly is found only in low BM small firm with a difference of abnormal return is small was 0.96%. All three other portfolios were not consistent with the hypothesis. In 2004, there were two portfolios with accrual anomaly, namely the group of big firm companies with low BM and small firm with low BM. Anomalies found only in companies with a low book-to-market ratio. Companies with a high book-to-market ratio and high accruals that have abnormal return are higher than similar low accrual companies with a considerable margin significantly by 1.55% on a big firm BM high and 3.18% in the small high firm BM.

In 2005, the amount of the accrual anomaly portfolio with more and more, which amounted to three of the four portfolios, i.e. portfolio of high BM big firm, a big firm low BM and BM high small firm with a difference of abnormal return that is between accrual companies of high and low are 1.50%, 3.08% and 0.38%. There is only one portfolio to support the notion beginning of this study, namely the small firm low BM,

where the difference is quite large, reaching 2.59%. In 2006, all the hypothesis-portfolio supported that have the lower accrual company can outperform high accrual company in abnormal return. This year, given the difference between the two groups in three large portfolio companies, i.e., 5.28% on a big high firm BM, 4.20% in the low BM big firm, and 5.05% in the high BM small firm. The small group firm low BM difference is very small, and it is only 0.10%.

If investors place their funds in stocks that correspond with the simulated portfolios above, then in 2003 and 2004 they will get an abnormal return that was lower by 1.62% and 3.89% compared to the portfolio as shown in Figure 4.19. However, if the accrual strategy continued until 2006, then in 2005 the investors would get a positive abnormal return of 2.37% and 14.63% in 2006. Following the accrual anomaly patterns in the portfolio formed that is based on size and book-to-market ratio, the longer the accrual anomaly increasingly visible. This is reflected in the value of abnormal return which is likely to be low or to be negative at the beginning of the observation period, but became very big in the final year of observation (2006).

4.2.1 *Regression Analysis*

4.2.2 *Size-based Portfolios*

Results of the regression analysis are presented in Table 5. For size-based portfolios, the significant model only on four portfolios, i.e., a portfolio of moderate to small firm and a small firm in 2003, as well as moderate to a big firm and moderate to a small firm in 2006. These results 4t portfolio shows that in the year concerned, the independent variables also have a significant effect on abnormal variations in return.

The R2 test showed that the model that had the highest R2 was a group of moderate portfolios to a small firm in 2003, where the model was able to explain 31.7% of the variation abnormal return on the portfolio in question. Another model that had a higher R2 value are those of small firm in 2003 with a value of 26.7%, moderate to a big firm in 2006 with a value of 31.1%, and moderate to a small firm in

2006 with a value of 31%. R2 lowest value owned by the big portfolio firm in 2004, the model can only explain the variation abnormal return of 2.8%, while 97.2% that is explained by variables outside the model. The significant value of R2 across the portfolio shows that independent and control variables can only explain abnormal return under certain conditions only, and it cannot be generalized.

In 2003 the big portfolio firm and moderate to a big firm, all the independent variables, and controls that were tested did not have a significant effect. In the portfolio of moderate to a small firm, there was only one significant variable that was a book-to-market ratio. However, in a portfolio of a small firm, there were more significant variable, namely the book-to-market ratio and the size of the company, both of which are control variables. This year, the independent variables were tested did not have a significant effect on the four portfolios. In 2004, all variables were both independently, and controls had no significant effect on abnormal return, except variable book-to-market ratio on the portfolio of moderate to small firm. In 2005, all variables were both independently, and the controls had no significant effect on abnormal return. This explains why R2 in 2005 was very low because the independent variable and control in the model was not able to explain the abnormal return at all, either in whole or respectively. In 2006, according to the portfolio of a big firm and small firm, there were no independent and control variables that significantly influence the abnormal returns. Variable accrual proved a significant effect on a portfolio of moderate to a big firm, while the control variable book-to-market ratio had a significant effect on a portfolio of moderate to small firm.

Variable accrual (accrual) have almost no influence at all in the determination of abnormal return, proven portfolio of sixteen tested, this variable is an only significant influence on the portfolio, which is in 2006 according to the portfolio of moderate to big firm. The coefficient of this variable is also not consistent in all of the portfolio, it is negative in nine portfolios, and it is positive in seven portfolios. This means accrual does not mean much in the prediction of abnormal return. However, in the portfolios, the accrual has a significant effect. This variable has a negative coefficient, which means that if the higher accrual of the abnormal return will be reduced. The natures of

these two variables are inversely related. This corresponds to the initial hypothesis that the higher accrual rate of the company, its stock tends to get an abnormal return is lower than the low accrual company.

Variable control of book-to-market ratio has more influence on the abnormal return compared to the primary variable being tested. Of the sixteen portfolios, these variables had a significant influence on the four portfolios, namely small firm in 2003 and moderated to a small firm in 2003, 2004 and 2006. The coefficient of the significant variables in the model was negative. Other control variables are the size (the size of the company) also did not have a significant effect on abnormal return. This variable affected only a small firm in the portfolio in 2003 with a positive coefficient.

4.2.3 *BM-based Portfolios*

In the overall significance test models, as presented in Table 6, there are 5 of 16 portfolios of independent variables and control together have a significant impact on the value of abnormal return-F stat where the probability is smaller than 5% (□). The portfolio was high BM firm in 2003 and 2004 with an F-stat probability of 0.10 and 0.006, moderate to high BM firm in 2003 and 2004 with an F-stat probability of 0.031 and 0.005, and moderate to high BM firm in 2006 with probability 0,044 F-stat. It shows that the model is very good in explaining the variation in the abnormal portfolio return that is a relative value of the book-to-market ratio is high.

R2 value is the highest at moderate to high BM portfolio firm in 2004 with a value of 38.3%. This means that the model can predict the movement of abnormal return of 38.3%, while other things outside the model determine 61.7%. Other portfolios that have high R2 value is high BM firm and moderate to high BM firm in 2003, high BM firm in 2004, and moderate to high BM firm in 2006. Following the results of test F, the model works well on portfolio firms' worth book-to-market ratio that is high. In the company which is worth book-to-market ratio is low; the model does not work well. For example, the low group firm BM 2003 R2 has a value of 8.9%. The same group in 2004 had an R2 of 5.1% and 8.3% in 2005. The group of moderate to low

BM firm has an R2 value of 5.9% in 2003, 9.7% in 2004, 4, 6% in 2005 and 6.8% in 2006.

In 2003, there are two model portfolios with independent variables and control a significant effect on the dependent variable, i.e., a portfolio of high BM firm and moderate to high BM firm. However, if further examined the actual impact is not significant main variables examined, i.e., accrual, but control variables such as the size in both groups and book-to-market ratio in the group of moderate to high BM firm. While variable accrual, size and book-to-market ratio on a portfolio of moderate to low BM and low BM firm do not have a significant influence on the dependent variable (abnormal returns).

In 2004, variable book-to-market ratio back proved to exert significant influence over the portfolio that is worth book-to-market ratio is high, while the variable accrual and size did not show a significant effect. There are no variables that have a significant impact on the variation abnormal return in 2005, both individually and overall. There is no F-Stat Probability smaller than a. In 2006, the book-to-market ratio had a significant effect on abnormal return, i.e., at low BM portfolio firm. Also, the accrual variables also showed a significant effect following a with hypothesis, where the company has a high accrual abnormal return is lower than the low accrual company, in other words inversely. This is consistent with a negative coefficient sign on accrual variables.

Among the sixteen portfolios, accrual variables only have a significant effect in the two portfolios, and both were in 2006. In the portfolio which variables influence the accrual significantly, the variable coefficients are negative numbers. This proves that between accruals and abnormal returns have a negative relationship or the other way around y, according to the initial hypothesis of the study. Besides, these results are also consistent with the results of the simulation portfolio, where the accrual anomaly appeared most clearly in 2006. The variable control of the book-to-market ratio has more influence on the abnormal return compared with the main variable being tested. Among the sixteen portfolios, these variables have a significant influence on the four portfolios that is high BM firm in 2004, moderate to high BM firm in 2003

and 2004, and the low BM firm in 2006. The coefficient of the significant variables in the model is positive, different from the coefficients in the portfolio based on company size. It showed no consistency effect book-to-market ratio in the determination of abnormal return. Other control variables are the size (the size of the company) also did not have a significant effect on abnormal return. These variables are only influential in a portfolio of high BM firm and moderate to high BM firm in 2003 with a positive coefficient.

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anomaly appeared most clearly in 2006. The variable control of the book-to-market ratio has more influence on the abnormal return compared with the main variable being tested. Among the sixteen portfolios, these variables have a significant influence on the four portfolios that is high BM firm in 2004, moderate to high BM firm in 2003 and 2004, and the low BM firm in 2006. The coefficient of the significant variables in the model is positive, different from the coefficients in the portfolio based on company size. It showed no consistency effect book-to-market ratio in the determination of abnormal return. Other control variables are the size (the size of the company) also did not have a significant effect on abnormal return. These variables are only influential in a portfolio of high BM firm and moderate to high BM firm in 2003 with a positive coefficient.

4.2.7 *Size/BM-based Portfolios*

On the test of significance of the overall model, results are presented in Table 7, there are 3 of the 16 portfolios were the independent variables and control that have a significant impact on the value of abnormal return where the probability-F stat is smaller than 5% (□) as shown in table 4:20. This amount is less than the portfolios formed based on size and BM. The portfolio is a big firm BM high in 2003 with 0.10 probability F-stat, big firm low BM firm in 2006 and low BM small firm in the same year with probability F-stat 0.022 and 0.001.

In this portfolio, the value of R2 is the highest among small companies group firm, low BM 2006, with a value of 43.2%. This is also the highest rate among the portfolio formed based on size and BM. Another group that has the R-squared value is quite high for a big firm that is a group of high BM, BM high small firm, small firm low BM 2003, BM high big firm in 2005, and big firm low BM in 2006. Rated R-squared lowest for the small firm low BM 2004 with a value of 1.7%, indicating that the inability of independent and control variables in predicting the value of the dependent variable.

In 2003, only the size of variables that have a significant impact on the abnormal return, which is modeled on the big portfolio of high firm BM and BM high small

firm. The independent variable accrual does not deliver results according to the initial hypothesis of the study, where the variable is not a significant influence. 2004 provides unsatisfactory results, in which all models in the portfolio did not show any significant results on the independent variables and control variables. This means that abnormal return this year is not subject to the accrual rate, the size of the company, as well as the ratio of book-to-market. As in 2003, the variable size shows significant effects on abnormal return in 2005. However, this effect is only shown in a big group of high BM firm.

In 2006, the regression showed that abnormal returns are also influenced by a book-to-market ratio, other than size. In the group of low BM big firm, abnormal return is significantly affected by the value of the company (size) and a book-to-market ratio. Formed in the portfolio based on size / BM, accruals variable does not affect all group companies. Also, the sign of the coefficient is also inconsistent between negative and positive. This shows that the accrual does not determine abnormal return. In contrast to the simulation of the portfolio especially in 2006 where stocks with low accrual outperform stocks with high accruals.

Variable control of book-to-market shows significant effects only in the two groups of companies in 2006that are the big firm low BM and low BM small firm. The regression results also showed signs of the inconsistent coefficient so that no conclusions can be drawn. Other control variables are the size (the size of the company) also did not have a significant effect on abnormal return. This variable affects only the portfolio of big firm high BM and small firm high BM 2003, big firm high BM 2005, and big firm low BM 2006 with coefficients that are not consistent between the negative and positive so that there are no definitive conclusions from the results of this regression.

4.2.8 *Overall Regression Portfolio*

As support, overall regression of the data is also done to the panel, without division into portfolios. Based on the results of the Chow test, concluded that better data is processed using a fixed effect model compared to pooled least square (PLS).

Furthermore, the Hausman test showed that compared fixed effect model is better to use random effect. Based on the assumption test, there was no multi co-linearity, but there are heteroscedasticity and autocorrelation in the model. Thus, researchers are using the Cross-Section SUR (PCSE) as the coefficient covariance method. F Test Results presented in Table 8 shows that independent variables did not explain variation in the dependent variable good. Also, the test results also showed that there are variables that significantly influence the abnormal returns, including the accrual variables.

4.2 Result Interpretation

The simulation results showed the accrual anomaly in portfolios happens in between 2003 to 2006. In 2003 the size-based portfolios showed anomalies, but BM-based portfolios and size / BM-based portfolios showed no anomalies. Thus, in 2003 the existence of the accrual anomaly is not strong. In 2004, only BM-based portfolios indicated the presence of anomalies, while the same anomaly was not found in the portfolio that was formed by two other ways. In 2005, the entire portfolio formation method provided results that are uniform, i.e., their accrual anomaly with little intensity. But this intensity was enlarged in 2006. The conclusion of the simulation's results that is the presence of the accrual anomaly in 2003 and 2004 are not consistent so that it cannot be maintained. Nevertheless, the existence of these anomalies in 2005 and 2006 is quite strong.

Regression committed to the investigation of the relationship accruals and abnormal returns show that the accrual does not affect the abnormal return. On the size-based portfolios, accrual only has a significant effect with a negative coefficient on one of the portfolios in 2006. This could mean that the anomaly found in 2005 was merely a coincidence. In correlation with that, regression results of three other portfolios in the year 2006 showed no significant effect, anomalies in the simulation of the portfolio are very likely just a coincidence. At the BM-based portfolios, regression results support the hypothesis was only found in two of the four portfolios in 2006. Of

its own accord as well as the size-based portfolios, the accrual anomaly simulation results in 2005 may be a coincidence, so is two other portfolios in 2006.

In size / BM-based portfolios, none of the regression results show the effect of accrual portfolio abnormal return. Data processing methods may cause differences in the simulation and regression. In the simulation, the number of companies involved amounted to only five companies with the highest and lowest accrual on each portfolio, but in the regression, all companies involved in the processing of data. Based on the above, the existence of the accrual anomaly cannot be ensured in 2003 and 2004. Accrual does not affect the abnormal return. Investors have given the portion corresponding to the accruals in the prediction of future earnings. However, the accrual was apparent in 2005 and 2006. This year, investors give portions that are too large to accrual in the profit forecast. This gives rise to irregularities because investors will not make mistakes that they did in the previous year. Thus, (not) the accrual anomaly in the year (2003 and 2004) in 2005 and 2006 may be caused not by the ability of investors profit forecast, but things aside from the study. Besides, a direct relationship between the level of accruals and abnormal returns cannot be proven robust and consistent.

5 Conclusion, Implication, and Limitation

Based on the analysis of the results of this study, it can be concluded that there is accrual anomaly in the Indonesian capital market, but the anomaly is different from the anomaly that is found in the American capital market which is consistent for thirty years (Lev and Nissim, 2005). In the Indonesian capital market, the accrual anomaly can be seen clearly in 2005 and 2006, but it is not the case in 2003 and 2004. Also, a direct correlation between the abnormal accrual return is not found in the regression test results. This difference may be due to differences in characteristics between Indonesia and US capital markets. Pincus et al., (2005) in his research state that the accrual anomaly is found in many common law countries compared with code-based state law. Accrual rate in the common law countries (such as America) is higher than the state law code (such as Indonesia), making it more prone to subjectivity

management and greater likelihood of earnings management that impact on lower earnings persistence.

This study cannot be separated from some drawbacks, one of which is the limited number of samples. Thus, generalizing the results of this study should be done with caution given the limited representation of the sample to the population. The stock price data used in this study have not been adjusted for corporate actions (corporate events), because of the difficulty identifying the corporate action. Also, this study did not distinguish between accruals discretionary and non-discretionary, which have different characteristics.

The results of this study provide evidence that can be input to the analyst that accruals need to be identified and estimated separately so that its influence on future earnings which is reasonably priced stock can be estimated more precisely. For investors and lenders, this research shows that by knowing the effect of accruals on future stock returns, it can help to minimize the prediction error earnings, so the decision-making related to the placement of funds can be done more accurately.

Suggestions for further research are that they need to use more samples and need to get longer observation periods so that research will have more companies listed on the Stock Exchange. Also, corporate actions need to be considered in the stock price variable so that measures abnormal return is more accurate, as well as an analysis of the effect of accrual, separated between accruals discretionary and non-discretionary.

Reference

Bellovary, J. L., Giacomino, D. E., & Akers, M. D. 2005. Earnings Quality: It's Time to Measure and Report. *The CPA Journal*.

Bernstein, L. 1993. *Financial Statement Analysis 5th ed.* Homewood: Irwin.

Chen, C. 2004. *Earning Persistence and Stock Price Under- and Overreaction.* Madison: University of Wisconsin.

Choi, F. D., & Meek, K. G. 2008. *International Accounting* (6th Edition ed.). New Jersey: Pearson Education.

Fama, E. F., & French, K. R. 1992. The Cross-Section of Expected Stock Return. *The Journal of Finance*, 427-465.

Fischer, D. E., & Jordan, R. J. 1991. *Security Analysis and Portfolio Management.* New Jersey: Prentice Hall.

Gujarati, D. N. (2003). *Basic Econometrics.* Singapore: McGraw-Hill.

Hribar, P., & Collins, D. W. 2002. Errors in Estimating Accruals: Implication for Empirical Research. *Journal of Accounting Research, 40*, 105-134.

Ikatan Akuntan Indonesia. 2009. *Standar Akuntansi Keuangan.* Jakarta: Salemba Empat.

Jones, C. P. 2007. *Investment.* North Carolina: John Wiley & Sons Pte Ltd.

Kieso, D. E., Weygandt, J. J., & Warfield, T. D. 2010. *Intermediate Accounting* (13 ed.). Asia: John Wiley & Sons.

Lev, B., & Nissim, D. 2005. *The Persistence of Accrual Anomaly*.

Lo, A. W., & Mackinlay, C. A. 1988. Stock Price Market Do Not Follow Random Walk: Evidence from a Simple Specification Test. *The Review of Financial Studies*, 41-66.

Mashruwala, C., Rajgopal, S., & Shevlin, T. 2006. Why Is Accrual Anomaly Not Arbitraged Away? The Role of Idiosyncratic Risk and Transaction Cost. *Journal of Accounting and Economics*, 3-33.

Mulyono. 2008. Hubungan Rasio Keuangan, Ukuran Perusahaan, dan Arus Kas pada Laporan Keuangan Interim dan Tahunan pada Abnormal Return Saham. Depok: Fakultas Ekonomi Universitas Indonesia.

Pincus, M., Rajgopal, S., & Venkatachalam, M. 2007. The Accrual Anomaly: International Evidence. *The Accounting Review*, 169-203.

Rahardja, Y. 2009. *Uji Asumsi Modigliani-Miller II: Pengaruh Financial Leverage terhadap Cost of Equity dan Cost of Debt Perusahaan-Perusahaan di Indonesia*. Universitas Indonesia, Faculty of Economic and Business. Depok: FEUI.

Ratmono, D., & Cahyonowati, N. 2005. Anomali Pasar Berbasis Earnings dan Persistensi Abnormal Akrual.

Ross, S. A., Westerfield, R. W., & Jordan, B. D. 2008. *Fundamentals of Corporate Finance.* McGram-Hills.

Sengupta, P. 1998, October. Corporate Disclosure Quality and the Cost of Debt. *The Accounting Review, Vol 73, No.4*, 459-474.

Sloan, R. G. 1996, July. Do Stock Prices Fully Reflect Information in Accruals and Cash Flows About Future Earnings? *The Accounting Review*, 289-315.

Soares, N., & Stark, A. W. 2009. The Accruals Anomaly - Can Implementable Portfolio Strategies be Developed That Are Profitable Net of Transaction Cost in UK? *Accounting and Business Research*, 321-345.

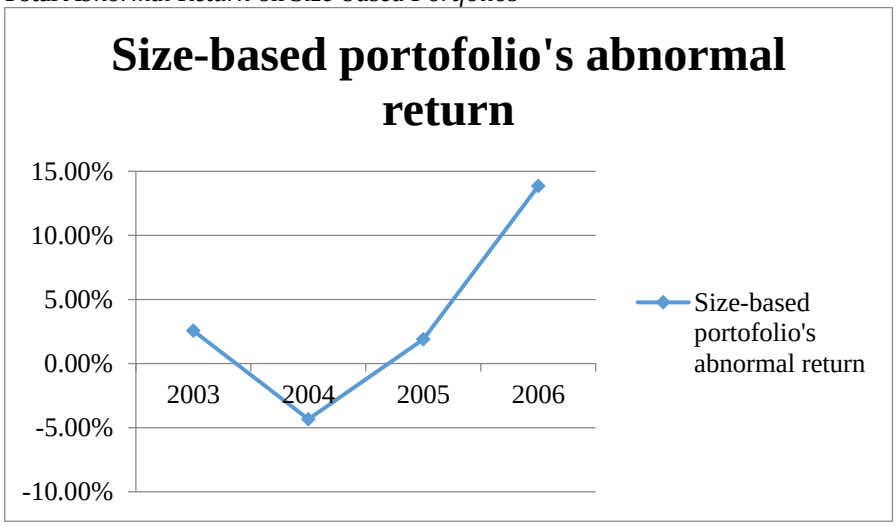
Subramanyam, K. R., & Wild, J. J. 2009. *Financial Statement Analysis.* Singapore: McGraw-Hill.

Teoh, S. H., & Wong, T. J. 2002. Why New Issues and High-Accrual Firms Underperform: The Role of Analyst' Credulity. *The Review of Financial Studies*, 869-900.

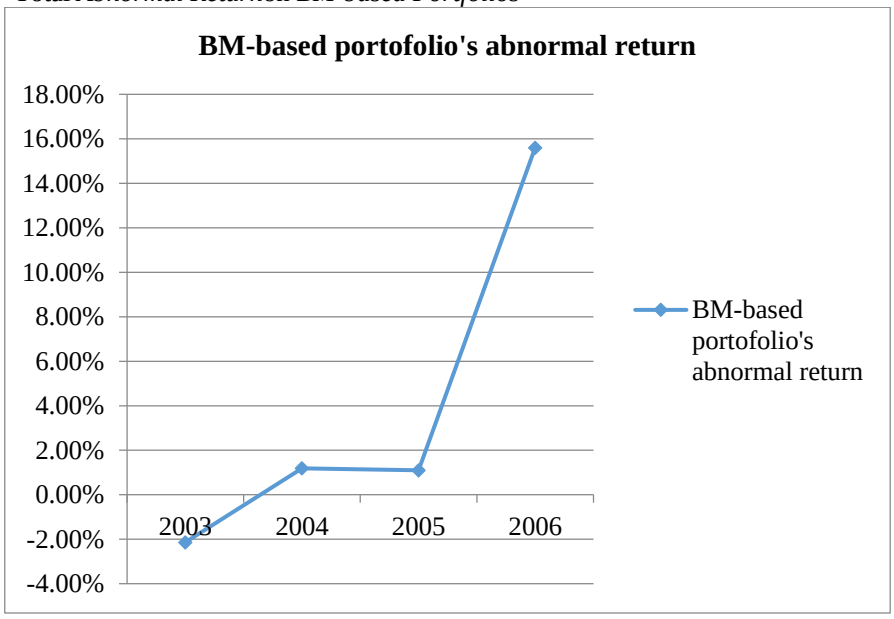
Yunior, W. S. 2009. *Pengaruh Kualitas Akrual Diskresioner dan Non-Diskresioner terhadap Biaya Modal.* Depok: FEUI.

Appendix

Picture 1
Total *Abnormal Return* on *Size-based Portfolios*



Picture 2
Total *Abnormal Return*on *BM-based Portfolios*



Picture 3
Total *Abnormal Return* on*Size/BM-based Portfolios*

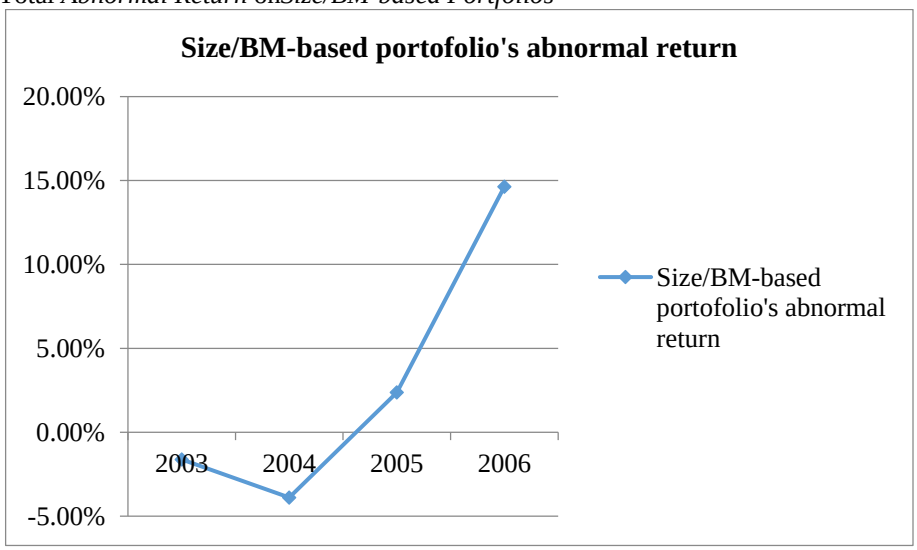


Table 1
Sample Selection

Note	Quantity
BEI number of issuers contained in Osiris	375
Issuers classified as finance companies	(81)
Do not have complete data size, the ratio of book-to-market value and accrual	(141)
Does not have monthly stock price data completeness	(32)
The final amount of sample	121
The number of samples during the four years of observation (firm-year)	484

Table 2
*Abnormal Return*in*Size-based Portfolios*

	Tahun											
	2003			2004			2005			2006		
Group / Accrual	**High**	**Low**	**Diff.**	**High**	**Low**	**Diff.**	**High**	**Low**	**Diff.**	**High**	**Low**	**Diff.**
Big Firm	-2.98%	-1.25%	1.73%	1.07%	-0.88%	-1.95%	-1.41%	0.23%	1.64%	-0.32%	1.35%	1.67%
Medium to big firm	-1.03%	-1.63%	-0.60%	-0.95%	-0.54%	0.41%	1.12%	1.35%	0.23%	-4.13%	3.28%	7.41%
Medium to small firm	-3.47%	-1.73%	1.74%	-2.05%	-1.26%	0.79%	-2.05%	0.59%	2.64%	-3.35%	-2.12%	1.23%
Small firm	-0.77%	-1.08%	-0.31%	2.16%	-1.43%	-3.59%	0.79%	-1.82%	-2.61%	-3.57%	-0.03%	3.54%
TOTAL ABNORMAL RETURN			2.56%			-4.34%			1.90%			13.85 %

Table 3

*Abnormal Return*in*BM-based Portfolios*

	Tahun											
	2003			2004			2005			2006		
Group / Accrual	**High**	**Low**	**Diff.**	**High**	**Low**	**Diff.**	**High**	**Low**	**Diff.**	**High**	**Low**	**Diff.**
High BM firm	-1.35%	-1.52%	-2.87%	-0.29%	-1.42%	-1.13%	-1.77%	-0.74%	1.03%	-3.01%	0.67%	3.68%
Medium to high BM firm	-1.42%	-0.93%	0.49%	0.46%	-0.27%	-0.73%	-0.61%	0.97%	1.58%	-3.25%	3.97%	7.22%
Medium to low BM firm	-1.03%	1.02%	2.05%	-0.02%	0.15%	0.17%	-0.91%	0.36%	1.27%	-2.86%	0.44%	3.30%
Low BM firm	-2.95%	-4.76%	-1.81%	-2.84%	0.04%	2.88%	2.38%	-0.40%	-2.78%	-1.61%	-0.21%	1.40%
TOTAL ABNORMAL RETURN			-2.14%			1.19%			1.10%			15.60 %

Table 4
*Abnormal Return*in*Size/BM-based Portfolios*

	Tahun											
	2003			**2004**			**2005**			**2006**		
Group / Accrual	**High**	**Low**	**Diff.**	**High**	**Low**	**Diff.**	**High**	**Low**	**Diff.**	**High**	**Low**	**Diff.**
Big Firm, High BM	-1.34%	-1.36%	-2.70%	-0.67%	-0.88%	-1.55%	-0.86%	0.64%	1.50%	-3.23%	2.05%	5.28%
Big Firm, Low BM	-1.67%	-3.16%	-1.49%	-3.04%	-0.54%	2.50%	-1.02%	2.06%	3.08%	-0.98%	3.22%	4.20%
Small firm, high BM	-0.12%	-0.78%	-0.66%	1.49%	-1.69%	-3.18%	-0.68%	-0.30%	0.38%	-3.06%	1.99%	5.05%
Small firm, low BM	-1.66%	-0.70%	0.96%	-1.38%	-0.77%	0.61%	0.16%	-2.43%	-2.59%	-1.43%	-1.33%	0.10%
TOTAL ABNORMAL RETURN			-1.62%			-3.89%			2.37%			14.63 %

Table 5
Regression Result of*Size-based Portfolios*

		ACCRUAL		BM		SIZE		C		N	R2	Adj. R2	F-stat	
Yr./Port		**Coef.**	**Prob.**	**Coef.**	**Prob.**	**Coef.**	**Prob.**	**Coef.**	**Prob.**					
03	1	-0.009	0.877	-0.001	0.103	-0.001	0.939	0.025	0.944	30	0.055	-0.054	0.504	
	2	0.039	0.679	0.000	0.740	0.029	0.187	-0.800	0.190	30	0.051	-0.059	0.463	
	3	-0.040	0.360	-0.001	0.002	-0.027	0.512	0.718	0.514	30	0.317	0.239	4.032	**
	4	0.029	0.682	-0.006	0.026	0.032	0.025	-0.823	0.025	31	0.267	0.185	3.274	**
04	1	0.108	0.411	0.000	0.985	0.005	0.751	-0.135	0.755	30	0.028	-0.084	0.253	
	2	-0.108	0.443	0.000	0.979	0.032	0.483	-0.879	0.478	30	0.060	-0.048	0.557	
	3	-0.178	0.438	0.001	0.001	0.067	0.472	-1.776	0.470	30	0.118	0.016	1.156	
	4	0.101	0.244	-0.002	0.449	-0.014	0.368	0.367	0.363	31	0.137	0.041	1.430	
05	1	0.000	1.000	0.000	0.657	-0.012	0.366	0.338	0.363	30	0.050	-0.059	0.458	
	2	-0.015	0.896	0.001	0.770	-0.005	0.774	0.148	0.777	30	0.007	-0.108	0.059	
	3	-0.109	0.168	-0.001	0.433	0.014	0.705	-0.376	0.698	30	0.097	-0.007	0.933	
	4	0.007	0.841	-0.004	0.377	-0.002	0.661	0.048	0.624	31	0.031	-0.077	0.286	
06	1	-0.018	0.882	0.000	0.184	-0.012	0.416	0.352	0.419	30	0.086	-0.019	0.819	
	2	-0.132	0.040**	-0.009	0.050	-0.007	0.740	0.202	0.735	30	0.311	0.232	3.915	**
	3	0.128	0.603	-0.006	0.002	0.063	0.163	-1.678	0.163	30	0.310	0.231	3.898	**
	4	-0.078	0.122	-0.003	0.302	0.000	0.976	0.008	0.931	31	0.116	0.018	1.183	

BM = book to market ratio
SIZE = Company size
Var.Dep = ARET; Var.Idp = ACCRUAL, BM, SIZE

Port 1= big firm
Port 2= moderate to big firm
Port 3= moderate to small firm
Port 4= small firm

* significantat α = 10%
** significant at α = 5%
*** significantat α = 1%

Table 6
Regression Result on *BM-based Portfolios*

		ACCRUAL		BM		SIZE		C		N	R2	Adj. R2	F-stat	
Yr./Port		**Coef.**	**Prob.**	**Coef.**	**Prob.**	**Coef.**	**Prob.**	**Coef.**	**Prob.**					
03	1	0.116	0.174	-0.005	0.115	0.022	0.015	-0.521	0.031	30	0.348	0.273	4.623	***
	2	-0.020	0.778	0.029	0.008	0.023	0.006	-0.626	0.006	30	0.378	0.306	5.266	***
	3	-0.023	0.503	-0.012	0.496	0.006	0.425	-0.121	0.540	30	0.059	-0.049	0.547	
	4	-0.009	0.928	-0.001	0.203	0.009	0.404	-0.164	0.559	31	0.089	-0.012	0.882	
04	1	0.053	0.411	-0.002	0.005	0.006	0.455	-0.094	0.667	30	0.284	0.201	3.435	**
	2	0.078	0.579	0.063	0.003	0.011	0.249	-0.360	0.164	30	0.383	0.312	5.376	***
	3	-0.038	0.670	0.044	0.124	0.001	0.928	-0.025	0.909	30	0.097	-0.007	0.935	
	4	0.134	0.355	0.001	0.412	0.003	0.750	-0.027	0.910	31	0.051	-0.054	0.484	
05	1	0.175	0.175	0.001	0.822	0.002	0.698	-0.007	0.951	30	0.083	-0.023	0.780	
	2	-0.042	0.403	0.015	0.410	0.009	0.187	-0.245	0.192	30	0.125	0.024	1.238	
	3	0.000	0.994	-0.020	0.307	0.000	0.923	0.044	0.529	30	0.046	-0.064	0.416	
	4	-0.032	0.637	0.000	0.935	-0.010	0.140	0.298	0.096	31	0.083	-0.019	0.818	
06	1	0.320	0.259	0.007	0.082	0.017	0.052	-0.412	0.067	30	0.194	0.101	2.092	
	2	-0.165	0.019**	-0.015	0.380	-0.011	0.166	0.357	0.125	30	0.263	0.178	3.094	**
	3	-0.006	0.946	0.028	0.250	-0.002	0.559	0.060	0.482	30	0.068	-0.040	0.630	
	4	-0.093	0.011**	0.000	0.038	-0.004	0.391	0.146	0.223	31	0.191	0.101	2.129	

BM = book to market ratio
SIZE = Company size
Var.Dep = ARET; Var.Idp = ACCRUAL, BM, SIZE

Port 1= high BM firm
Port 2= moderate to high BM firm
Port 3= moderate to low BM firm
Port 4= low BM firm

* significantat α = 10%
** significant at α = 5%
*** significantat α = 1%

Table 7
Regression Result on *Size/BM-based Portfolios*

		ACCRUAL		BM		SIZE		C		N	R2	Adj. R2	F-stat	
Yr./Port		Coef.	Prob.	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.					
03	1	0.033	0.745	-0.002	0.603	0.048	0.001	-1.318	0.001	30	0.349	0.274	4.649	***
	2	0.054	0.443	-0.001	0.230	-0.001	0.878	0.037	0.896	30	0.072	-0.035	0.677	
	3	0.054	0.313	-0.002	0.586	-0.025	0.016	0.667	0.016	30	0.246	0.159	2.833	*
	4	-0.018	0.747	-0.001	0.069	0.030	0.083	-0.810	0.081	31	0.222	0.136	2.575	*
04	1	0.106	0.553	-0.002	0.090	0.017	0.318	-0.454	0.328	30	0.131	0.030	1.302	
	2	-0.055	0.608	0.001	0.257	0.007	0.487	-0.187	0.490	30	0.057	-0.052	0.525	
	3	0.117	0.069	0.000	0.930	-0.025	0.085	0.663	0.087	30	0.169	0.073	1.757	
	4	0.085	0.539	0.000	0.717	-0.005	0.779	0.136	0.770	31	0.017	-0.093	0.153	
05	1	0.206	0.312	0.011	0.212	0.030	0.015	-0.836	0.013	30	0.230	0.141	2.585	*
	2	-0.037	0.682	0.000	0.600	-0.006	0.373	0.179	0.374	30	0.044	-0.067	0.395	
	3	-0.019	0.715	0.000	0.953	-0.002	0.505	0.061	0.552	30	0.039	-0.072	0.353	
	4	0.008	0.859	-0.001	0.480	0.002	0.753	-0.048	0.748	31	0.026	-0.083	0.236	
06	1	-0.089	0.426	0.011	0.577	0.013	0.468	-0.374	0.458	30	0.080	-0.026	0.757	
	2	-0.017	0.825	0.000	0.034	-0.017	0.018	0.493	0.019	30	0.304	0.224	3.783	**
	3	0.197	0.520	0.005	0.242	0.013	0.135	-0.352	0.120	30	0.136	0.036	1.365	
	4	-0.068	0.163	-0.006	0.000	-0.001	0.819	0.027	0.808	31	0.432	0.369	6.844	***

BM = book to market ratio
SIZE = Company size
Var.Dep = ARET; Var.Idp = ACCRUAL, BM, SIZE

Port 1= big firm, high BM
Port 2= big firm, low BM
Port 3= small firm, high BM
Port 4= small firm, low BM

* significantatα = 10%
** significantatα = 5%
*** significantatα = 1%

Table 8
Overall Regression Result

Dependent Variable: ARET

Method: Panel EGLS (Cross-section random effects)

Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ACC	0.000375	0.000393	0.954837	0.3401
BM	-0.001207	0.002482	-0.486371	0.6269
SIZE	9.98E-05	0.000198	0.505143	0.6137
C	0.001452	0.081180	0.017891	0.9857
Weighted Statistics				
R-squared	0.002196	Mean dependent var		-0.021851
Adjusted R-squared	-0.004040	S.D. dependent var		0.137105
S.E. of regression	0.137382	Sum squared resid		9.059381
F-statistic	0.352126	Durbin-Watson stat		1.874412
Prob(F-statistic)	0.787629			
Unweighted Statistics				
R-squared	0.002963	Mean dependent var		-0.025432
Sum squared resid	9.845917	Durbin-Watson stat		1.724675

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